

THE ECONOMIC IMPACT OF THE PROPOSED ARENA IN VIRGINIA BEACH



VIRGINIA BEACH ARENA

HKS sports & entertainment

VIRGINIA BEACH
ECONOMIC DEVELOPMENT

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EXECUTIVE SUMMARY

Virginia Beach is the most populous city in the Commonwealth of Virginia and now is considering the construction of a very substantial \$350 million arena near its oceanfront. The new arena, which would open in 2014 and experience its first full year operation in 2015, would host a National Basketball Association team. It also would host many other events, including college basketball games and tournaments, concerts, family-oriented shows, and a variety of other events ranging from motor sports and trade shows to religious gatherings and graduation ceremonies.

HKS, Inc., Comcast-Spectacor and Live Nation together project that almost 700,000 fans would attend NBA pre-season and regular season games at the arena and that 1.327 million individuals will attend an event at the arena in a typical year. They also forecast that the arena will host almost 200 events annually, including the NBA contests. This study relies upon those projections to generate economic impact and job estimates.

The economic impact of the new arena would be considerable, even after taking into account “displaced” expenditures that would have occurred anyway in the region even if the arena did not exist. The direct operation of the arena will generate net new (non-displaced) economic activity of \$98,435,352 in 2015 in Hampton Roads and \$66,246,992 in the City of Virginia Beach. These estimates include the ripple (“multiplier”) effects of additional spending.

The additional economic activity would generate 1,230 net new jobs in Hampton Roads and 839 in the City of Virginia Beach, both after taking displaced spending into account.

The new arena also will increase property values on a one-time basis within Hampton Roads by an estimated \$54,207,960 of which \$49,771,305 will occur in the City of Virginia Beach. The estimated “amenity value” (enhanced quality of life) of the new arena is approximately \$30.0 million in the region and \$20.0 million in the City of Virginia Beach.

The City of Virginia Beach will capture 67.3 percent of the total economic impact of the operation of the new arena and 92.2 percent of incremental tax revenues generated from that operation.

This study was not asked to reach any conclusions concerning whether the arena actually should be constructed or, if it is constructed, how it should be financed.

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ACKNOWLEDGMENTS

This study concerning the economic impact of a proposed new arena in the City of Virginia Beach was performed at the request of HKS, Inc., Comcast-Spectacor, and Live Nation. These three firms provided most of the data required for this study.

The three firms bring strong credentials to this task. HKS, Inc. is an international architectural firm headquartered in Dallas, Texas. It was founded in 1939 and employs over 900 people, making it one of the largest architectural firms in the United States. It has completed services on structures valued in excess of \$69 billion and currently has more than \$12 billion in construction currently underway.

Comcast-Spectacor is the principal owner of Global Spectrum, the fastest growing firm in the public assembly management field. The company manages and operates public assembly facilities throughout the world. Global Spectrum provides complete management and operational services to its clients and offers a full service, in-house marketing department at all of its facilities to increase ticket sales for the events and to enhance the image of its facilities. Comcast-Spectacor manages the Ted Constant Center at Old Dominion University.

Live Nation Entertainment is the world's leading live entertainment and e-commerce company, comprised of four market leaders: Ticketmaster.com, Live Nation Concerts, Front Line Management Group and Live Nation Network. Ticketmaster.com is the global event ticketing leader and one of the world's top five e-commerce sites, with over 26 million monthly unique visitors. Live Nation Concerts produces over 20,000 shows annually for more than 2,000 artists globally. The City of Virginia Beach has accumulated 17 years of satisfactory experience with Live Nation.

Economic impact studies are data driven and hence obtaining the data necessary to perform this study was a supremely important task. Mr. Sims Hinds, Vice President and Managing Director of HKS World Events, a division of HKS, Inc., was very helpful in tracking down needed data, as was Mr. Warren Harris, the Economic Development Director of the City of Virginia Beach. A special debt, however, is owed to Dr. Vinod Agarwal, who directs the Old Dominion University Economic Forecasting Project and Dr. Gary Wagner, whose is a highly skilled analyst within the project. Without their help and without the results of the Old Dominion University Economic Forecasting Model, this study could not have been completed.

INTRODUCTION

Economic impact studies are designed to estimate the incremental economic effects of specific economic actions. Hence, they are counterfactual in nature---if we take a certain action such as the construction of an arena, then the economic effects will be such and such. Economic impact studies are “if this, then that” types of analyses---and consequently are very useful for decision makers because they enable them to focus on the incremental or net effects of an action. Literally, decision makers and citizens alike can then see what difference a particular decision or action will make in their economic lives.

The net economic effects of economic impact studies typically are divided into two parts: the effect of that action on the level of economic activity (changes in incomes) and the number of net additional jobs that are associated with that action.

The major conceptual problem associated with economic impact studies is a phenomenon known as “*displacement*.” If a proposed action (for example, the opening of a new restaurant in Virginia Beach) does nothing more than reallocate the consumer restaurant expenditures of resident of Virginia Beach from existing restaurants to the new restaurant, then the opening of that restaurant actually has no net economic impact at all. Conceptually, such a situation (displacement) simply involves taking money out of one pocket and putting it another. There is no net economic gain in such cases even though cities and regions frequently make claims to the contrary.

There are, however, two ways that an action can result in new, additional, incremental economic impact for a city or a region. First, there can be positive economic impact if the action attracts individuals from outside the city or region who come to the region and spend money that

would not have spent in the city or region otherwise. For example, individuals could travel from Richmond to Virginia Beach to patronize the new restaurant. Or, in the context of this study, the family in Richmond could travel to Virginia Beach and spend money connected to an NBA basketball game. Second, there can be positive economic impact if the action literally causes people to “stay home” and spend money in this city or region rather than spending it elsewhere. For example, this could involve a Virginia Beach family that used to travel to Richmond to patronize restaurants there, but now decides to stay home and eat dinner at a new Virginia Beach restaurant. Or, in the context of this study, they used to travel to Washington, DC, for entertainment, but now choose to stay home and instead attend events at the new arena in Virginia Beach.

These are important distinctions. **Many of the expenditures some individuals prefer to count as part of the economic impact of a project (say, the opening of a new restaurant) often don’t contribute any net, new economic impact at all because these expenditures would have occurred anyway within the city or region in question. A new arena, however, is a different matter because it has drawing power. It acts like a magnet and attracts individuals from other regions even while it also keeps people at home.**

As a consequence, two of the most critical tasks in any economic impact study are estimating the inflow of people and expenditures that flow into a city or region from the outside and simultaneously estimating the flow of people and expenditures from outside the city or region to inside the city or region. In the case at hand, we are examining the probable economic impact of the construction and operation of a new arena in Virginia Beach---an arena that would host a National Basketball Association (NBA) team and many other attractive events, including concerts, shows and performances. What we must estimate is the number of individuals who

will come into the region as a result and spend time and money in Virginia Beach and Hampton Roads and, in addition, the extent to which the existence of the arena will cause more individuals to “stay home” and spend their time and money here. These are the two major sources of new economic thrust connected to the proposed arena. Fortunately, there are available a variety of reputable economic models, including the U.S. Department of Commerce’s RIMS II model, that provide sound estimates of the sizes of these two phenomena.

Another important consideration for any economic impact study relates to the economic circumstance known as “*leakage*.” Nearly every economic action, for example, purchasing a new automobile, or building a new arena, creates economic ripples. The workers who are paid by the construction company spend their money, the merchants who receive those dollars in turn pay their employees, who usually also spend that money, and the merchants usually also buy goods and services from other merchants. Each dollar of new economic activity sets into motion a process that generally has many rounds. Joe spends money at Ann’s store; Ann spends money at the ABC company; the ABC company pays its employees, who then spend the money they earn, etc. Except in very rare cases, however, expenditure “leakage” occurs. Some individuals save rather than spend the money they receive and some individuals spend the money they receive outside of the city or region where they earned it. Once again, estimating the size of such leakages is a very important consideration in any economic impact study, but fortunately a variety of economic models exist that assist us in pinning down the size of the leakages.

Many economic impact studies divide the ripple effects of new expenditures into two parts---“*indirect*” impacts and “*induced*” economic impacts. Indirect economic impacts relate to the effects an action has on suppliers. By way of illustration, the construction of the proposed

arena will require construction materials and a host of supplies ranging from equipment to food. These effects upon suppliers are indirect impacts.

Induced economic impacts, on the other hand, measure the impact of individuals' income. Thus, the construction and operation of the arena will result in many individuals receiving additional income and conventionally these are referred to as induced impacts. This study combines these two economic impacts into one expansionary multiplier or ripple economic effect. This will make it easier to understand the overall economic impact of the construction and operation of the arena.

HAMPTON ROADS AND CITY OF VIRGINIA BEACH

Virginia Beach, with a population of approximately 445,000, is the most populous city in the Hampton Roads metropolitan region, which has a population of 1.67 million. As Table 1 reveals, the gross regional product of the Hampton Roads economy exceeds \$84 billion. If the region were a country, then it would be the 62nd largest economy in the world and this would easily place it in upper one-half of all the countries in the United Nations.

Figure 1 demonstrates that the economy of Hampton Roads has three major drivers--- defense spending, the Port of Virginia, and tourism. Of these three, defense spending clearly is the most important and is responsible for almost 46 percent of the value of the region's economic activity. Indeed, defense spending is the 10,000 ton gorilla of the Hampton Roads economy and it influences all aspects of economic activity in the region. During the first half of the previous decade, rapid increases in defense spending (see Figure 2) pushed economic growth rates well above the national average. Since then, economic growth rates have been more modest.

Figure 3 illustrates that in many ways, Hampton Roads is a "navy town." About 79 percent of the approximately 100,000 uniformed military personnel stationed in the region belong to the United States Navy. Naval Base Norfolk hosts five aircraft carrier groups and each of these groups contributes almost \$1.0 billion per year to the regional economy when they are in port.

TABLE 1
SIZE AND GROWTH OF THE ECONOMY
OF HAMPTON ROADS, 2000-2012

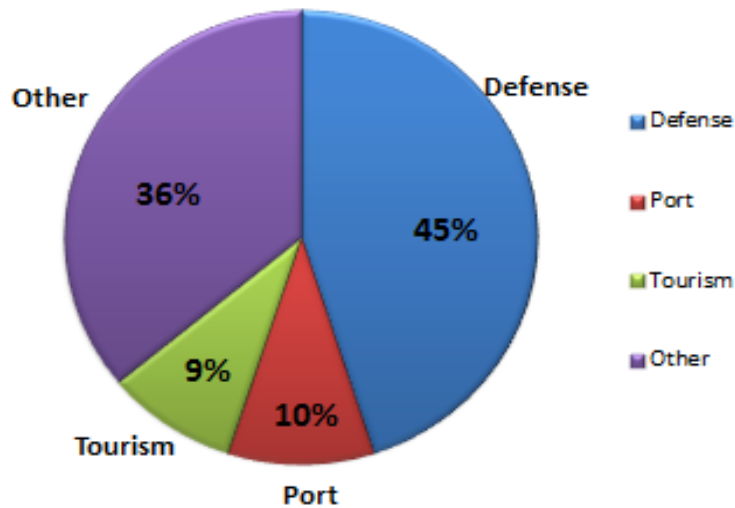
YEAR	NOMINAL GRP BILLION\$	REAL GRP (2005=100) BILLION\$	REAL GRP GROWTH RATE PERCENT
2000	50.33	56.81	4.80
2001	52.49	57.94	1.99
2002	55.73	60.44	4.32
2003	59.27	62.99	4.21
2004	63.80	65.91	4.64
2005	67.59	67.59	2.55
2006	72.71	70.45	4.23
2007	76.23	71.78	1.88
2008	78.00	71.82	0.07
2009	78.10	71.20	-0.87
2010	79.84	71.93	1.03
2011^e	82.36	72.88	1.32
2012^f	84.72	74.32	1.97

Source: Old Dominion University Economic Forecasting Project.

Virginia Beach has for many years hosted the Oceana Naval Air Station, a Master Jet Base that is home for the U.S. Navy's most modern combat aircraft, including the F/A-18 Hornet and F/A-18 Super Hornet. Approximately 11,000 full-time military and civilian individuals work at Oceana.

FIGURE 1

MAJOR SOURCES OF ECONOMIC ACTIVITY IN HAMPTON ROADS

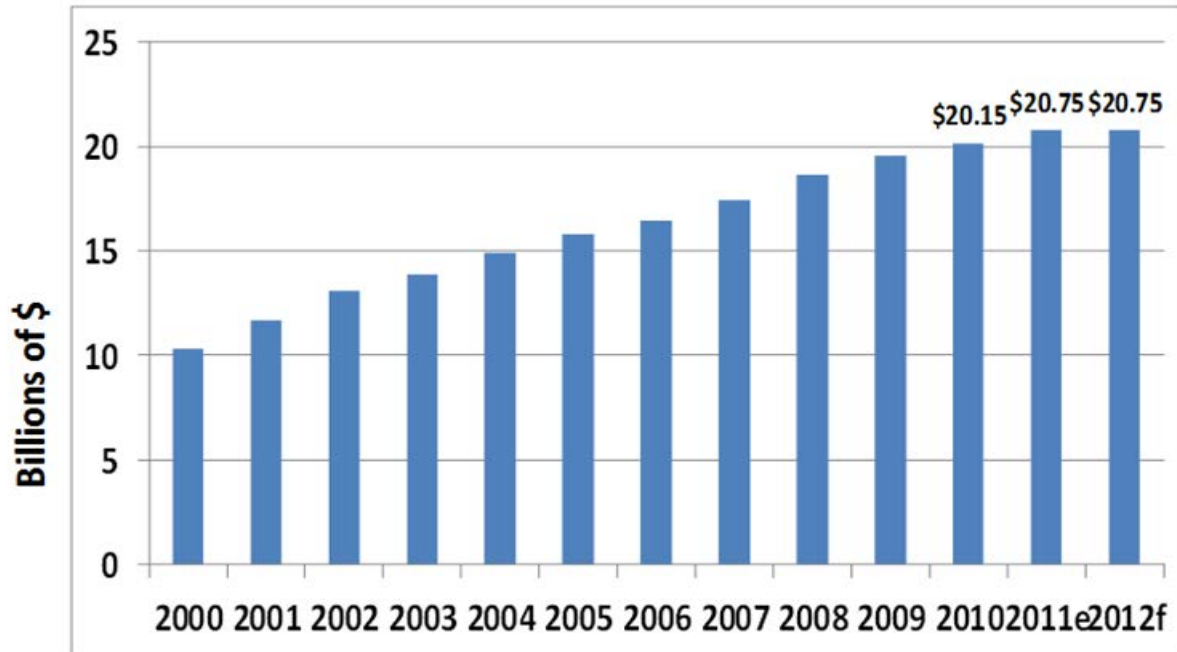


Source: Old Dominion University Economic Forecasting Project

The second major leg on the economic stool of Hampton Roads is the Port of Virginia, which is the third largest on the East Coast and annually handles more coal than any other port in the country. It also features what may be the most technologically advanced facility in the United States to handle the ubiquitous twenty-foot equivalent units (TEUs) that one sees on trucks and being loaded and unloaded at large businesses. This facility was constructed by APM Maersk, but currently is managed by the Virginia Port Authority.

FIGURE 2

DEFENSE EXPENDITURES IN HAMPTON ROADS, 2000-2012

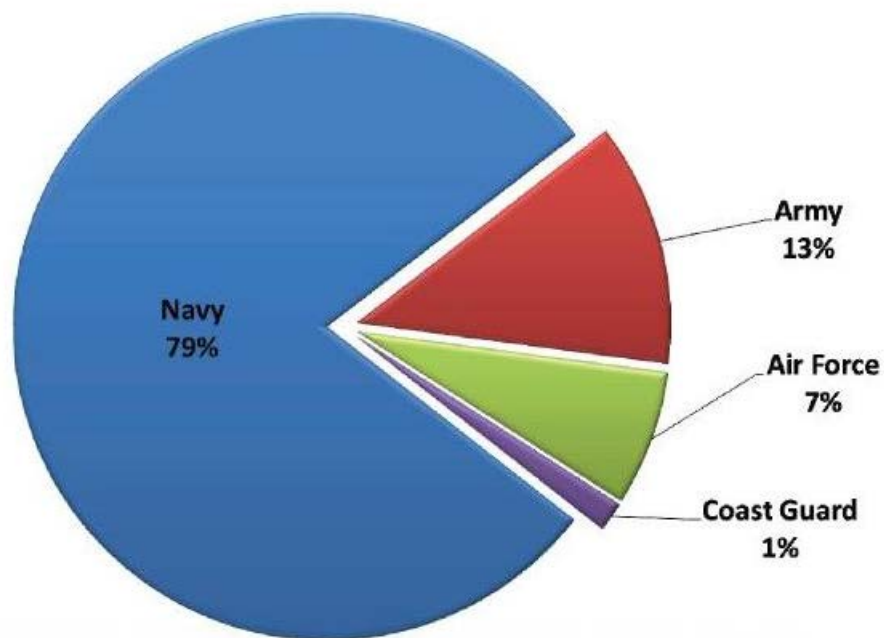


Source: Old Dominion University Forecasting Project. Includes both military and civilian employment and procurement.

The third major leg on the regional economic stool is tourism and here the City of Virginia Beach clearly is the region's largest player. Figure 4 illustrates that Virginia Beach's share of regional tourism expenditures has grown over the past decade and now exceeds 40 percent. Virginia Beach offers approximately thirty miles of well-maintained white sand beaches, plus fishing, surfing, numerous golf courses, and other highly attractive features such as the Virginia Aquarium and Marine Science Center. In 2010, the Virginia Tourism Corporation

reported that tourists spent an estimated \$1.13 billion in Virginia Beach and thus were responsible for 11,562 additional jobs in Virginia Beach.¹

FIGURE 3
SHARE OF MILITARY EMPLOYMENT BY SERVICE,
HAMPTON ROADS, 2011



Sources: Old Dominion University Forecasting Project and HRPDC

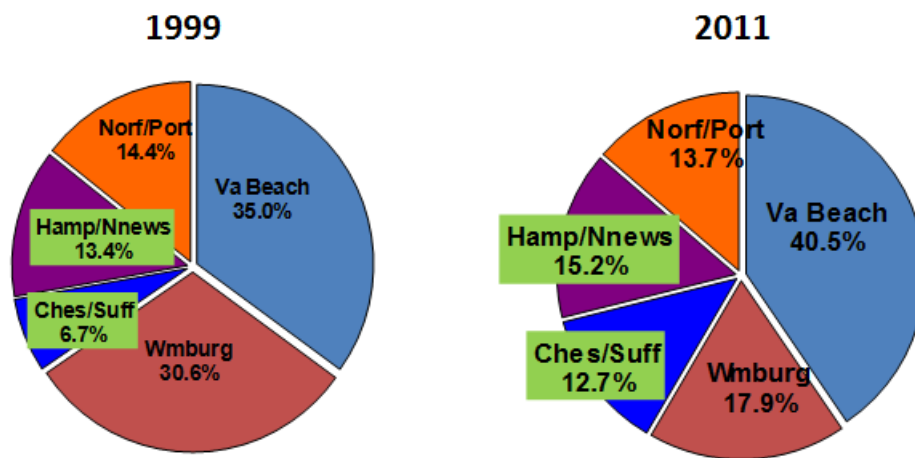
Tourism data for Virginia Beach in particular contain valuable information concerning the likely patrons of the new arena. The “Summer 2011 Virginia Beach Overnight Visitor

¹ Virginia Tourism Corporation, “Governor McDonnell Announces Tourism Economic Impact Figures,” October 12, 2011, www.vatc.org.

Profile”² discloses that the two largest sources of tourists for Virginia Beach are the Washington, DC metropolitan area and the Richmond, VA metropolitan area. The relevant point

FIGURE 4
SHARE OF TOURISM EXPENDITURES BY CITY,
HAMPTON ROADS, 2011

**Estimated Market Shares of the Hampton Roads Hotel Industry
Based Upon Hotel Revenues**

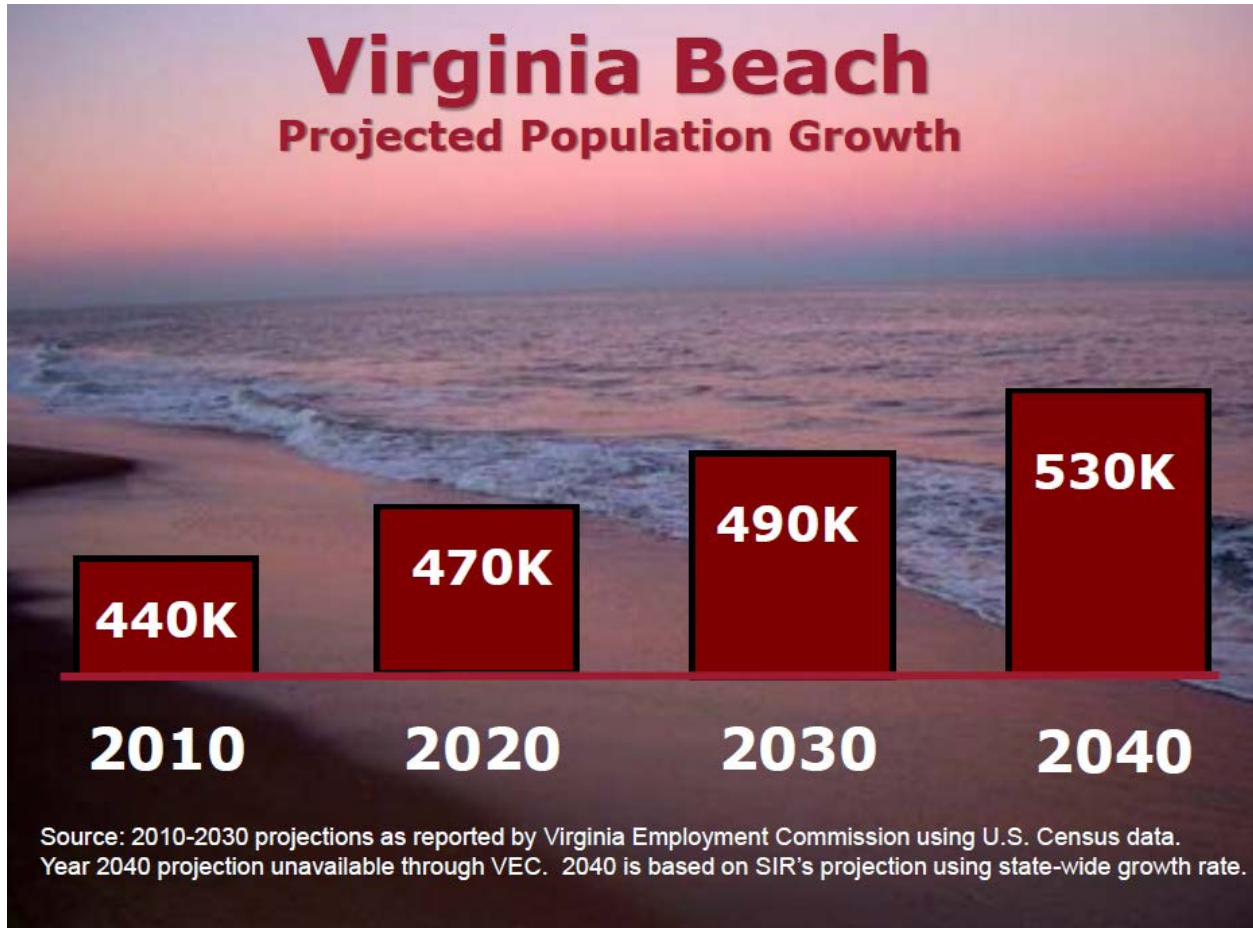


Sources: Smith Travel Research and the Old Dominion University Forecasting Project

is that many individuals are accustomed to traveling to the City of Virginia Beach for vacations and entertainment. By inference, one might expect this practice to continue if Virginia Beach constructed an arena that will host an NBA team and attract national caliber entertainment events. The Summer 2011 tourism study also revealed that the average per person expenditure

² Ronald D. Berkebile and Continental Research Associates, “Summer 2011 Virginia Beach Overnight Visitor Profile,” Prepared for the Virginia Beach Convention and Visitors Bureau, June 2012.

FIGURE 5
**PROJECTED POPULATION GROWTH,
CITY OF VIRGINIA BEACH**



of a visitor to Virginia Beach was \$511 per visit. This reflects the relatively high average family income of visitors to Virginia Beach---\$97,110 according to the study.

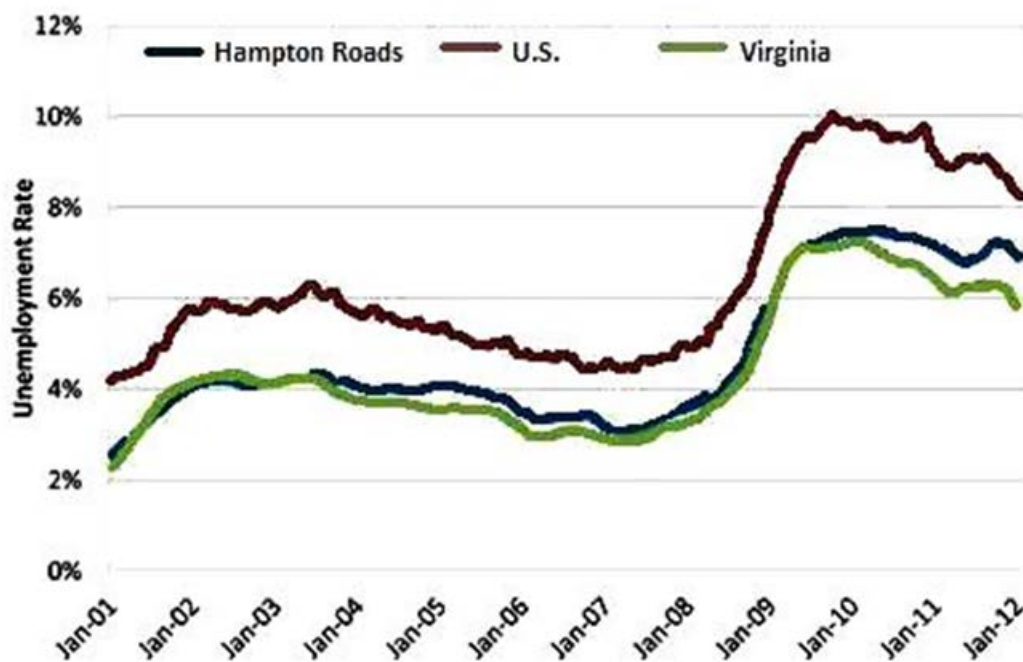
The City of Virginia Beach itself is prosperous and growing. Figure 5 estimates that by 2020, the City's population will have grown to 470,000, and to 530,000 by 2040.³

³ Figure 5 comes from the *Envision Virginia Beach 2040 Report* of the City of Virginia Beach, May 15, 2012. The report is a valuable guide to anyone contemplating the future of the City of Virginia Beach.

The rate of unemployment in Hampton Roads has been below the national average for many years (see Figure 6). However, the rate of unemployment in Virginia Beach in turn nearly always has been well below the regional level. For example, in June 2012, the national rate of unemployment was 8.2 percent, while it was 6.7 percent in Hampton Roads, but only 5.7 percent in Virginia Beach.⁴

FIGURE 6

**UNEMPLOYMENT RATES:
U.S., VIRGINIA, HAMPTON ROADS, 2001- 2012**



Sources: Bureau of Labor Statistics, HRPDC and the Old Dominion University Forecasting Project

⁴ Philip Walzer, "Hampton Roads Jobless Rate Rises to 6.7 Percent," *Virginian-Pilot*, August 1, 2012, www.pilotonline.com.

TABLE 2**MEDIAN HOUSEHOLD INCOMES IN HAMPTON ROADS, 2010**

<u>Location</u>	<u>Median Household Income 2000</u>	<u>Median Household Income 2010</u>	<u>Percentage Change 2000 to 2010</u>
<i>Hampton Roads</i>	<i>\$42,448</i>	<i>\$57,605</i>	<i>35.7%</i>
Currituck County, NC	\$40,822	\$55,376	35.7%
Gloucester County	\$45,421	\$59,331	30.6%
Isle of Wight County	\$45,387	\$62,242	37.1%
James City County	\$55,594	\$73,903	32.9%
Mathews County	\$43,222	\$47,435	9.7%
York County	\$57,956	\$81,055	39.9%
Chesapeake	\$50,743	\$67,855	33.7%
Hampton	\$39,532	\$49,815	26.0%
Newport News	\$36,597	\$49,562	35.4%
Norfolk	\$31,815	\$42,677	34.1%
Poquoson	\$60,920	\$84,315	38.4%
Portsmouth	\$33,742	\$45,488	34.8%
Suffolk	\$41,115	\$65,104	58.3%
Virginia Beach	\$48,705	\$64,618	32.7%
Williamsburg	\$37,093	\$50,794	36.9%

Sources: Bureau of Labor Statistics and Old Dominion University Forecasting Project

The median (50th percentile) household income in Virginia Beach is considerably higher than the regional average. Table 2 reports that the median income of a household in Virginia Beach was \$64,618 in 2010, or 12.2 percent higher than the regional average of \$57,605, which in turn was 14.7 percent higher than the national average of \$50,221.⁵

In sum, in both Hampton Roads and Virginia Beach, incomes are higher and unemployment rates lower than those in the U.S. The City of Virginia Beach is characterized by much higher than national average levels of household income and much lower than national average levels of unemployment.

⁵ For a quick and uncomplicated discussion of these data, see <http://www.usnews.com/opinion/articles/2010/10/05/median-us-household-income-by-state>.

ECONOMIC IMPACT OF FULL-YEAR OPERATION OF THE NEW ARENA

Perhaps the most important assumption underpinning this study is straightforward---the City of Virginia Beach will attract an NBA franchise and this team will play its home season in the proposed new arena, located at the eastern end of the City near the oceanfront. **If Virginia Beach does not attract and retain an NBA franchise, then the economic impact estimates reported here will decline dramatically.**

Note that this study does not address whether or not the City of Virginia Beach should construct a new arena, or if it does, then how it should pay for that arena. These are matters for the citizens of Virginia Beach to resolve. This study focuses only on the anticipated net economic impact of the new arena and relies upon the projections supplied by HKS, Inc., Comcast-Spectacor, Live Nation and the City of Virginia Beach in order to do so.

The first full year of operation of the arena will be 2015. In that year, the major sources of economic stimulus from the arena will come from nine areas:

- Ticket Sales to Events (see Appendix A for estimates of ticket sales and prices for various types of events)
- Sales of Suites, Special Seating, Courtside Seats, etc.
- Food and Concession Spending in the Arena
- Rental Payments for the Use of the Arena
- Parking
- Media, Advertising and Sponsorships
- Naming Rights

- Merchandise
- Restaurants Off-Site, Motels, Hotels
- Net Additional Tax Receipts

TABLE 3

ESTIMATED ARENA-RELATED EXPENDITURES IN 2014 AND 2015

	<u>2014</u>	<u>2015</u>
Ticket Sales to Events	\$60,395,890	\$62,086,975
Sales of Suites, Special Seating, Courtside Seats, etc.	\$26,872,640	\$27,625,074
Food and Concession Spending in the Arena	\$14,723,854	\$15,136,122
Rental Payments for the Use of the Arena	\$ 3,413,864	\$ 3,509,452
Parking	\$ 3,810,000	\$ 3,916,680
Media, Advertising and Sponsorships	\$ 5,750,000	\$ 5,911,000
Naming Rights	\$ 3,000,000⁶	\$ 3,000,000
Merchandise	\$16,739,055	\$17,207,749
Restaurants Off-Site, Motels, Hotels	\$22,081,712	\$22,700,000
Net Additional Tax Receipts	\$10,871,620	\$11,176,620

⁶ Realistically, the naming of the arena is likely to occur prior to 2015, but because the naming relates to the operation of the arena rather than its construction, the \$3,000,000 value has been included here in the first full-time year of operation.

Totals	\$167,658,635	\$172,269,077
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Table 3 records the estimated values for each of these variables in 2014 (when the arena will be open only a portion of the year) and their inflation-adjusted estimated values in 2015. The 2014 estimates have been supplied by HKS, Inc., Comcast-Spectacor, Live Nation and the City of Virginia Beach. The assumed rate of inflation is 2.8 percent, which was the average annual increase in the consumer price index (CPI) for urban consumers between 2002 and 2012.⁷

Four adjustments must be made to the dollar values in Table 3 in order to ascertain the actual economic impact they will have on Virginia Beach and Hampton Roads. These adjustments are: (1) find the portion of these expenditures that made by individuals coming from outside of Hampton Roads to take part in events at the arena; (2) find the portion of these expenditures due to individuals inside Hampton Roads “staying home” and spending money here rather than outside the region; (3) reduce these expenditures for “leakages” that occur when funds are spent outside the region; and, (4) having reduced the expenditures for leakages outside the region, determine the economic ripple (“multiplier”) effect of these expenditures upon economic activity in the region.

These adjustments and the economic ripple effect are complicated and many individuals are not interested how they occur. They agree that the adjustments must be made, but are not interested in the precise process by which the adjustments occur. For those that do want to know how the process actually takes place, however, Figure 7 provides a conceptual guide. Appendix B in turn reports the actual coefficients that were used to generate the results illustrated in Figure 7.

⁷ “Consumer Price Index for All Urban Consumers, U.S. City Average,” 2002-2012,” www.bls.gov.

FIGURE 7

THE PROCESS THAT PRODUCES THE ECONOMIC IMPACT ESTIMATES

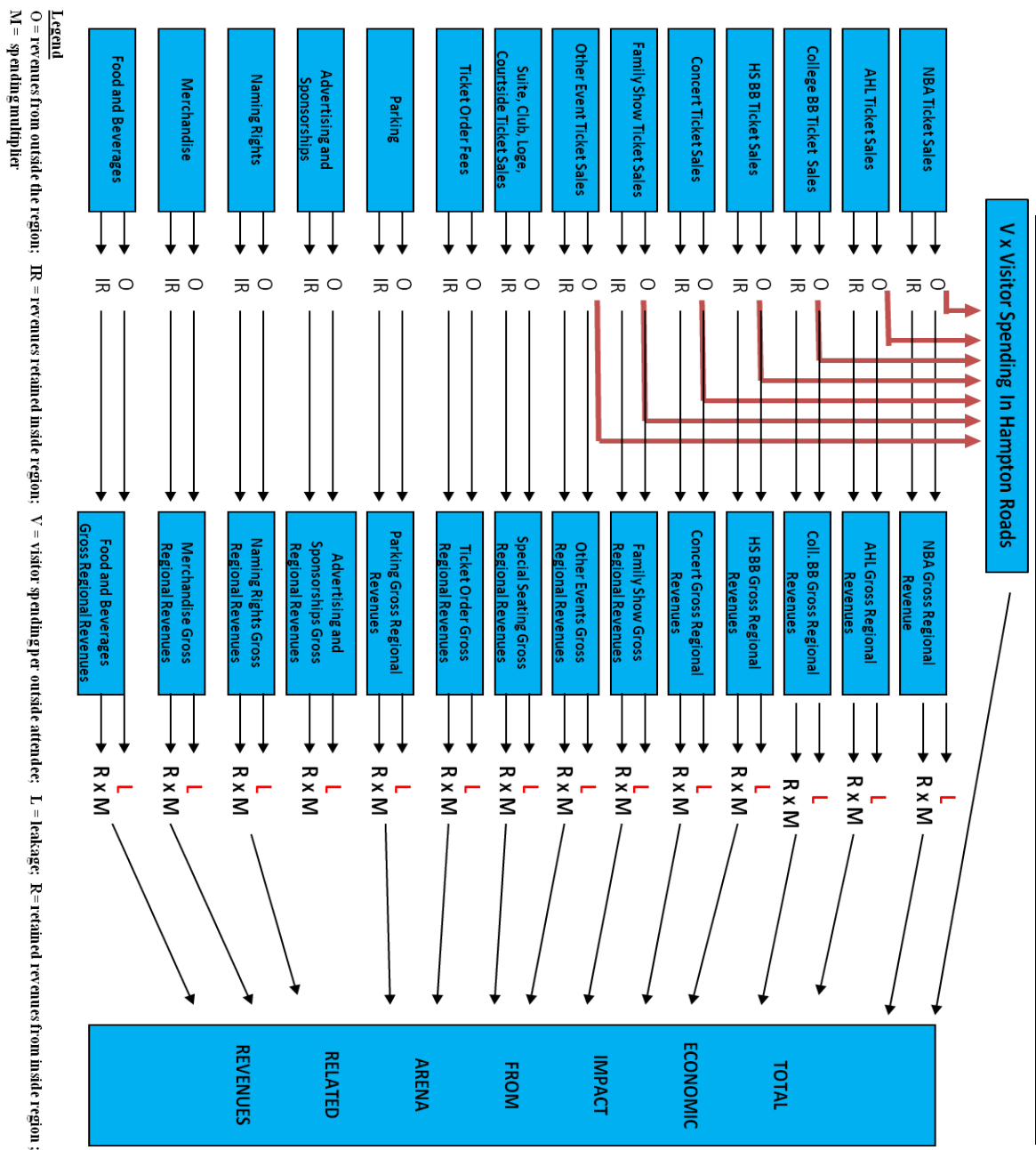


Table 4 makes all four of the adjustments described. The gross expenditures in the nine categories total \$172,269,077, but are reduced to \$98,435,352 after the four adjustments are made. For the most part, this reduction reflects displacement. That is, many of these

TABLE 4

**ADJUSTING THE ARENA-RELATED EXPENDITURES
IN ORDER TO FIND THEIR NET ECONOMIC IMPACT
IN HAMPTON ROADS, 2015**

	<u>Gross Value, 2015</u>	<u>Net Value, 2015</u>
Ticket Sales to Events	\$62,086,975	\$27,807,811
Sales of Suites, Special Seating, Courtside Seats, etc.	\$27,625,074	\$14,227,047
Food and Concession Spending in the Arena	\$15,136,122	\$ 6,911,471
Rental Payments for the Use of the Arena	\$ 3,509,452	\$ 4,009,389
Parking	\$ 3,916,680	\$ 2,192,990
Media, Advertising and Sponsorships	\$ 5,911,000	\$ 7,156,400
Naming Rights	\$ 3,000,000	\$ 4,800,000
Merchandise	\$17,207,749	\$10,641,774
Economic Impact upon Restaurants, Motels and Hotels	\$22,700,000	\$15,015,360
Net Additional Tax Receipts	\$11,176,025	\$ 5,673,109
Totals	\$172,269,077	\$98,435,352

expenditures would have occurred anyway inside the region and therefore they do not constitute a net economic gain for the region. Another large reduction occurs because of expenditure

leakages---the ripple multiplier effect of any given expenditure is diminished when individuals take those funds and spend them outside of the region.

The net economic impact of the operation of the arena and upon restaurants and hotels outside of the arena in 2015, however, is large and significant. Even after the adjustments just noted, it totals \$98,435,352. The five largest sources of this economic impact are tickets sales to events (including the NBA games); the sale of suites and special courtside seating; media, advertising and sponsorships expenditures; food and concessions spending; and, spending in restaurants, motels and hotels outside the arena. To give some perspective to this number, the annual economic impact of an aircraft carrier in Hampton Roads (without any accompanying ships or support) is approximately \$300 million.

Additional Tax Collections

Governmental bodies require funds in order to operate. The proposed arena will generate a variety of streams of revenue for the City of Virginia Beach and to a lesser extent for other cities and counties in the region. However, much of this revenue is *displaced*, that is, governmental units would have collected most of it anyway when citizens spent it on activities other than those at the arena. Thus, it would be incorrect to attribute all taxes generated by arena activities as constituting net additions to governmental revenues in the region.

Which taxes merit consideration here? This study makes the following assumptions about increased tax collections:

Local sales taxes	2.5% after the return of funds from Richmond is taken into account
Admissions taxes	10% on taxable amounts

Food and beverage taxes	5.5% of amount spent
Lodging Tax	8.0% of room cost
Business License Tax	
Retail & Restaurant Sales	20 cents per \$100 of sales
Hotel & Admission Sales	36 cents per \$100 of sales
Real estate taxes	\$.95 per \$100 of assessed valuation on residential and commercial property

Even after displaced expenditures and resulting displaced tax collections are taken into account, the region's governments will collect additional tax revenues. These incremental net collections will include admissions taxes, food and beverage taxes, sales taxes, business license taxes, and property taxes. One can see in Table 4 that the estimate is that the region will collect \$5,673,109 in net, new tax revenues because of the operation of the arena. (This is much less than the \$11,176,025 in actual tax revenues the region will collect, but a healthy portion of these revenues are the result of displaced expenditures and therefore don't really constitute net new tax revenues.) The City of Virginia Beach will capture the great majority of these net, new tax revenues because it will collect the admissions tax and the food and beverage tax directly and its real estate will benefit most from the construction of the arena. **Table 5 reports that the net, new tax collections of the City of Virginia Beach will be an estimated \$5,230,607 in 2015 if the operation of the new arena conforms to HKS's projections. Thus, Virginia Beach will capture 92.2 percent of the new, non-displaced tax revenues that accrue from the operation of the arena.**

TABLE 5

ESTIMATED NET NEW TAX COLLECTIONS IN HAMPTON ROADS AND VIRGINIA BEACH BECAUSE OF THE OPERATION OF THE NEW ARENA, 2015

Total Tax Collections Due to Operations, Restaurants, Hotels, Real Estate	\$11,176,025
Total Net, New Tax Collections After Displacement, Leakages, etc.	\$ 5,673,109
Total Net, New Tax Collections, City of Virginia Beach	\$ 5,230,607 (92.2%)

The Portion of the Total Annual Operational Economic Impact Captured by the City of Virginia Beach

How much of the total economic impact of the operation of the arena that was estimated in Table 4 will be captured by the City of Virginia Beach? Table 6 reports that Virginia Beach will capture about \$66,246,992 or 67.3 percent, of the total economic impact of the operation of the arena in Hampton Roads, assuming the projections of HKS, Comcast-Spectacor, Live Nation and the City are on target. The reader is forewarned that this particular estimate is less precise than the estimates in Table 4 because available economic models ordinarily do not break down these kinds of economic data at the level of cities. However, making an estimate for Virginia Beach is not completely guesswork because, for example, it is plausible to assume that the City of Virginia Beach will capture nearly all of the economic impact of naming the new arena, renting its facilities, and operating the parking facility there. Also, previous economic studies of the region have generated useful data that guide us as well. Hence, the \$66,246,992 (67.3 percent) estimate in Table 5 is a usable approximation of the annual economic impact of the operation of the new arena on the City of Virginia Beach.

Roughly speaking, then, the City of Virginia Beach will capture a bit more than two-thirds of the net annual economic impact generated by the operation of the new arena in 2015.

TABLE 6

**THE PORTION OF THE ECONOMIC IMPACT OF THE OPERATION OF THE
ARENA CAPTURED BY THE HAMPTON ROADS REGION
AND THE CITY OF VIRGINIA BEACH, 2015**

Annual Regional Net Economic Impact of Operating the Arena, 2015	\$98,435,352
Captured by the City of Virginia Beach, 2015	\$66,246,992 (67.3%)

Translating the Economic Impact to Net New Jobs Created

The same economic models that generated the estimated net new annual economic impact of the new arena also generate estimates of the net new jobs that will be created by the operation of the arena. Once again, one should bear in mind that the new arena will employ many new people and the spin-off, ripple effects of its activities will generate employment as well as money is spent and re-spent throughout the region. Nevertheless, we cannot count jobs that involve displacement---cases where individuals simply change their place of work because consumers have switched the places in the region where they are spending their money. Those situations do not involve the creation of net new regional jobs.

As Table 7 reports, however, an estimated 1,230 incremental new jobs (non-displaced jobs) will be created in Hampton Roads by the annual operation of the new arena and 839 (67.2 percent) of these new jobs will be in Virginia Beach. Again, in order to provide perspective, consider that Stihl, Inc. employs more than 2,000 individuals in

Hampton Roads. The job impact of the new arena would have an impact of about three-fifths of another Stihl, Inc.

TABLE 7

**INCREMENTAL (NON-DISPLACED) NEW JOBS CREATED
BY THE OPERATION OF THE NEW ARENA, 2015**

Incremental, Non-Displaced Arena-Related New Jobs in Hampton Roads, 2015	1,230
Incremental, Non-Displaced Arena-Related New Jobs In Virginia Beach, 2015	839 (67.2%)

**ECONOMIC IMPACT OF THE ARENA
ON REAL ESTATE VALUES**

Except in unusual circumstances, additional economic activity increases the value of real estate, both residential and commercial. Residential properties are made more valuable when

they are located near the locations where economic activity is occurring and commercial properties become more valuable because the anticipated profit that can be earned from a commercial property increases when that property is located in the midst of thriving economic activity. Expanding businesses require more employees and these employees require place to live and shop. These influences drive up real estate values, albeit gradually.

Each \$1.00 increase in *personal income*⁸ in the City of Virginia Beach increases the assessed value of real estate in the City of Virginia Beach by about \$.68, while the assessed value of all property in Hampton Roads increases by about \$.72 because of the same \$1.00 increase in personal income. The Virginia Beach Real Estate Assessor's Annual Report to the City Council for the Fiscal Year 2012-2013 reports residential and commercial property with an assessed valuation of \$48.642 billion.⁹ The RIMS II and related models project an increase in personal income of \$57,025,714 in 2015 in Virginia Beach because of the new arena. It is the latter figure that is most likely to influence real estate values on a permanent basis. **This suggests an increase in the assessed valuation of residential and commercial real estate in the City of Virginia Beach because of the arena of \$49,771,305 for the City of Virginia Beach.** This is slightly more than one percent of the total assessed valuation of residential and commercial property in Virginia Beach.

The assessed valuation of all residential and commercial real estate in Hampton Roads (including Virginia Beach) is approximately \$170 billion. **The models predict an increase in personal income of \$75,121,536 in Hampton Roads because of the new arena and therefore the projected increase in the assessed valuation of property in the entire Hampton Roads**

⁸ This is not the same as economic impact. Personal income excludes a variety of types of business income and typically for the economy as a whole ranges between 80 and 90 percent of gross domestic product.

⁹ *Real Estate Assessor's Report to the City Council for 2012-2013*, City of Virginia Beach, February 16, 2012.

region because of the arena is \$54,207,960. Thus, Virginia Beach will capture almost 92 percent of the increase in property values because of the new arena. Table 8 summarizes these results.

TABLE 8

INCREASED PROPERTY VALUES BECAUSE OF THE NEW ARENA, 2015

Increased Property Values in Hampton Roads, 2015	\$54,207,960
Increased Property Values in Virginia Beach, 2015	\$49,771,305 (91.8%)

Because the current tax rate per \$100 of assessed valuation of property in Virginia Beach is \$0.95, this means that $.0095 \times \$49,771,305 = \$472,257$ of additional property taxes will be collected annually by the City of Virginia Beach if the arena increases property values as observed in other metropolitan areas. Assuming an average \$1.00 rate in the remainder of the region, the rest of Hampton Roads will collect a much smaller annual amount of net additional property taxes, \$44,967.

QUALITY OF LIFE AND AMENITY CONSIDERATIONS

The proposed arena will host a National Basketball Association (NBA) team. The NBA is one of the most popular professional sports leagues in the world and NBA franchises and

games are sought after by cities and regions throughout the United States. Will an NBA team make Virginia Beach and Hampton Roads better, more attractive places to live because the presence of the team provides visibility, cachet and entertainment? Further, will this bid up property values?

The weight of economic evidence suggests that the answers to these two questions are yes,¹⁰ though nearly all the accumulated studies have focused upon the economic impact of an NFL team on a region. Further, the studies have generated highly variable estimates of how large this “amenity” effect actually is. Given the variability of the estimates (as applied to Virginia Beach, for example, the methodology of one outlying study would produce an estimate of a \$1.0+ billion amenity-induced increase in assessed valuation because of the NBA team¹¹), it seems prudent to adopt a conservative estimate. If we set aside the \$1.0+ billion estimate as an outlier and then apply the methodologies of the other studies, then we emerge with a cluster of estimates around \$20 million for the City of Virginia Beach and \$30 million for Hampton Roads when those estimates are tailored to the local situation. **The bottom line is that there is a traceable amenity value to hosting an NBA team and as time passes, the presence of that team causes property values to rise. Note, however, that this is a one-time stimulus to property values and does not cumulate each year.**

¹⁰ See Michael L. Walden, *The Economic Impact of the PNC Arena in Raleigh, North Carolina* (June 2012) for a good summary and discussion of the literature and the issues.

¹¹ Carlino, Gerald and N. Edward Coulson, “Compensating Differentials and the Social Benefits of the NFL”, *Journal of Urban Economics*, 56 (1), July, 2004, 25-50. Note that this study also found that wages decreased by four percent because of an NFL team, but that estimate was not statistically significant.

ECONOMIC IMPACT OF ARENA CONSTRUCTION

The estimated cost of constructing the new arena is \$350 million. These costs represent one-time only expenditures and will be incurred primarily in 2013 and 2014. Determining the economic impact of the construction of a prospective arena can be an inexact science unless one knows ahead of time who the prime contractor will be, who the major subcontractors will be, and where each is located. An arena prime contractor for a Virginia Beach arena whose home base is Chicago likely will hire fewer local workers, and purchase more construction inputs from outside the region than one whose is based locally.

This study assumes that the prime contractor will either be based in Hampton Roads, or have a strong Hampton Roads base and track record such that at least two-thirds of employees come from the region. Further, this study assumes that two-thirds of the \$350 million construction cost will be devoted to materials and equipment and one-third to hiring and compensating employees. This is consistent with other economic impact studies for arenas and stadiums, for example, that involving the construction of a National Football League stadium in Arlington, Texas.¹²

In addition, this study assumes that 40 percent of both labor and materials expenditures will be made in Hampton Roads and that 20 percent will be made in Virginia Beach. These are rough and ready assumptions, but are consistent with other studies and necessarily will be influenced by the identity and home base of the contractors selected. Table 9 summarizes all of these assumptions.

Given these assumptions, and relying upon the same techniques outlined in the previous sections, it is possible to estimate the one-time only economic impact of arena construction.

¹² *Economic and Fiscal Impacts for the Proposed NFL Stadium in Arlington, Texas*

Even after taking displacement, leakage and the ripple multiplier effects into account, arena construction will still generate \$279 million of new economic impact in Hampton Roads and \$111.6 million of economic impact in the City of Virginia Beach.

The construction activity also will generate new jobs---560 in Hampton Roads and 224 in the City of Virginia Beach, but these jobs will disappear once the construction of the arena is finished.

TABLE 9

ASSUMPTIONS CONCERNING ARENA CONSTRUCTION	
Arena Cost	\$350.00 million
Labor Expenditures	\$116.67 million
Materials and Equipment Expenditures	\$233.33 million
Regionally Sourced Expenditures	40.0%
Virginia Beach Sourced Expenditures	20.0%

TABLE 10

ONE-TIME ONLY ECONOMIC IMPACT OF ARENA CONSTRUCTION, 2013-2014	
Economic Impact, Hampton Roads	\$279.0 million
Economic Impact, Virginia Beach	\$111.6 million
New Jobs, Hampton Roads	560
New Jobs, Virginia Beach	224

SUMMARY

The total economic impact of the operation of the new arena in Virginia Beach is the sum of the economic impact associated with: (1) the operation of the arena; (2) the impact on property values; (3) the amenity value of the arena; and, (4) the construction of the arena. These are summarized in Table 11.

TABLE 11

SUMMARIZING THE ECONOMIC IMPACT IN HAMPTON ROADS OF THE OPERATION OF THE ARENA, 2015	
Direct Operation of the Arena	\$98,435,352
(including tickets, food and concessions, rentals, parking, media, advertising, sponsorships, naming rights, merchandise, net additional tax receipts after eliminating displaced expenditures and leakages)	
Increased Property Values, One-Time	\$54,207,960
Amenity Value (\$17.96 per person in the region on an annual basis)	\$30,000,000
Incremental Jobs Related to Operations	1,230
One-Time Only <i>Construction</i> Economic Impact	\$279,000,000
One-Time Only New Jobs Related to <i>Construction</i>	560

Table 10 summarizes the economic impact for the City of Virginia Beach only.

TABLE 12

**SUMMARIZING THE ECONOMIC IMPACT
IN THE CITY OF VIRGINIA BEACH
OF THE OPERATION AND CONSTRUCTION OF THE ARENA, 2013-2015**

Direct Operation of the Arena	\$66,246,992
--------------------------------------	---------------------

(including tickets, food and concessions,
rentals, parking, media, advertising,
sponsorships, naming rights,
merchandise, net additional tax
receipts after eliminating displaced
expenditures and leakages)

Increased Property Values, One-Time	\$49,771,305
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Amenity Value	\$20,000,000
(\$45.45 per person in Virginia Beach on an annual basis)	

Incremental Operational Jobs in Virginia Beach	839
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One-Time Only <i>Construction</i> Economic Impact	\$111,600,000
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One-Time Only New Jobs Related to <i>Construction</i>	224
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Thus, if the projections of HKS, Inc., Comcast-Spectacor, Live Nation and the City of Virginia Beach are on target, then in 2015 the new arena will add \$182,643,312 in income and value, and 1,230 new jobs, to the Hampton Roads region. A major portion of this will occur in the City of Virginia Beach, where the arena will add \$136,018,297 in income and value and 839 new jobs.

Prior to that time, however, the construction of the arena will add \$279 million of one-time only economic impact to Hampton Roads and create 560 one-time only jobs.

Inside the City of Virginia Beach, arena construction will add \$111.6 million in one-time only economic impact and 224 one-time only jobs.

THE LIMITS OF THIS STUDY

This study was performed based on data supplied by HKS, Inc., Comcast-Spectacor, Live Nation and the City of Virginia Beach. If their data and projections are on target, then the results of this study will be on target.

This study does not reach any conclusion concerning whether the arena should be constructed, or if it is constructed, then how it should be financed. These are separate matters that must be addressed by the citizens of the City of Virginia Beach.

Finally, the economic impact estimates supplied here are very heavily dependent upon the City of Virginia Beach attracting an NBA team and hosting that team in the arena. The estimates supplied here decline dramatically if an NBA team is not present.

APPENDICES

Appendix A: Estimated Ticket Sales and Prices

Estimates Supplied by

HKS, Inc., Comcast
Spectacor, Live Nation
and the City of Virginia
Beach

	<u>Number of Events</u>	<u>Average Ticket Price</u>	<u>Average Attend.</u>	<u>Total Attend.</u>
<u>Sporting Events</u>				
Professional Sports Events	82	\$58.44	10,734	880,200
College Teams Regular Season Games				
	1	\$25.00	15,000	15,000
College Teams Post-Season Games	4	\$30.00	10,500	42,000
High School Basketball				
	2	\$14.00	7,500	15,000
Miscellaneous	1	\$0.00	3,000	3,000
<u>Concerts</u>				
Major Concert Events	10	\$65.00	10,000	100,000
Minor Concert Events	10	\$45.00	5,000	50,000
<u>Family Shows</u>				
All Events	24	\$29.31	3,646	87,500
<u>Other Events</u>				
PBR	3	\$30.00	7,500	22,500
Motor Sports	2	\$15.00	8,000	16,000
Arena Cross	3	\$15.00	4,700	14,100
WWE/MMA	2	\$35.00	8,000	16,000
Trade Shows	2	\$0.00	2,000	4,000
Conventions	4	\$0.00	2,000	8,000
Religious	6	\$0.00	3,500	21,000
Graduations	4	\$0.00	2,500	10,000
Community/Local	26	\$0.00	500	13,000
Meetings/Banquets	4	\$0.00	100	400
Other	5	\$0.00	2,000	10,000
Totals	195	\$45.49	6,809	1,327,700

Average Average

Appendix B: The Estimating Coefficients Utilized in This Study

Estimates for “O”

NBA Games	.13 to .20
AHL Games	.08 to .14
College BB Games	.12 to .30
HS BB Games	.06
Concerts	.17 to .25
Family Shows	.08 to .15
Other Events	.04 to .21
Suite and Special	
Seats	.17
Ticket Order Fees	.17
Parking	.12
Advert and	
Sponsorships	.90
Naming	1.00

Merchandise	.27
Food and Beverages	.20

Estimates for “IR”

NBA Games	.12
AHL Games	.08
College BB Games	.20
HS BB Games	.04
Concerts	.10
Family Shows	.08
Other Events	.10
Suite and Special Seats	.12
Ticket Order Fees	.12
Parking	.08
Advert and Sponsorships	.05
Naming	0
Merchandise	.12
Food and Beverages	.08

Estimates for “L”

.33 to .40

Estimates for “M”

NBA Games	1.70 to 2.04
AHL Games	1.41 to 1.77
College BB Games	1.51 to 1.89
HS BB Games	1.36 to 1.88
Concerts	1.72 to 1.91
Family Shows	1.57 to 1.89
Other Events	1.50 to 1.75
Suite and Special Seats	1.83
Ticket Order Fees	1.91
Parking	1.84
Adverting, Media and Sponsorships	1.60
Naming	1.60
Merchandise	1.85
Food and Beverages	1.92

Estimates for “V”

.08 for NBA games, college games, concerts; .03 for all others.

Appendix C: About James V. Koch

James V. Koch is Board of Visitors Professor of Economics at Old Dominion University. He served as President of Old Dominion from 1990 to 2001. Prior to that, he was President of the University of Montana, 1986-1990.

Dr. Koch has published ten books and approximately 100 refereed journal articles. His research has focused primarily upon applied microeconomics topics. His journal articles on the economics of intercollegiate athletics, the economics of discrimination and affirmative action, TQM, and the economics of education have been reprinted and cited frequently. Recently, he has done extensive work in the economics of e-commerce and currently is doing a book on Caterpillar that explores the sources of this Fortune 500 manufacturing firm's success.

For thirteen years, Dr. Koch has produced the widely cited *State of the Region Report* for the Hampton Roads, Virginia, metropolitan area (population 1.6 million) that analyzes and assesses the region's economic, political and social conditions.

His recent research has examined the risk-taking behavior of corporate CEOs and was funded by the Kauffman Foundation. The results of the research were published as *Born, Not Made* (Praeger, 2008, co-author James L. Fisher). His other recent book---*America For Sale*, a study of the purchase of U.S. assets by foreigners (Praeger, Fall 2009, co-author, Craig T. Bouchard)---has earned wide attention, especially in the steel industry, which is its primary focus. Dr. Koch served for several years as a member of the board of the Wheeling-Pittsburgh Steel Company and its successor, Esmark.

Dr. Koch has performed numerous economic impact studies for clients including Amerigroup, Eastern Virginia Medical School, Bon Secours Health System, Valley Health System, and WellCare.